www.ogel.org

ISSN : 1875-418X
Issue : Vol. 18 - issue 1
Published : January 2020

This paper is part of the OGEL Special Issue on *"Social Licence to Operate (SLO) in the Extractive and Energy Sectors"* edited by:


Dr. J. Górski
View profile


Dr. G. Mete
View profile


Hon. C. Trenorden
View profile

Oil, Gas & Energy Law Intelligence

Wind Energy, Benefit-Sharing and Indigenous Peoples: Lessons from the Isthmus of Tehuantepec, Southern Mexico by P. Velasco Herrejon and A. Savaresi

About OGEL

OGEL (Oil, Gas & Energy Law Intelligence): Focusing on recent developments in the area of oil-gas-energy law, regulation, treaties, judicial and arbitral cases, voluntary guidelines, tax and contracting, including the oil-gas-energy geopolitics.

For full Terms & Conditions and subscription rates, please visit our website at www.ogel.org.

Open to all to read and to contribute

OGEL has become the hub of a global professional and academic network. Therefore we invite all those with an interest in oil-gas-energy law and regulation to contribute. We are looking mainly for short comments on recent developments of broad interest. We would like where possible for such comments to be backed-up by provision of in-depth notes and articles (which we will be published in our 'knowledge bank') and primary legal and regulatory materials.

Please contact us at info@ogel.org if you would like to participate in this global network: we are ready to publish relevant and quality contributions with name, photo, and brief biographical description - but we will also accept anonymous ones where there is a good reason. We do not expect contributors to produce long academic articles (though we publish a select number of academic studies either as an advance version or an OGEL-focused republication), but rather concise comments from the author's professional 'workshop'.

OGEL is linked to **OGELFORUM**, a place for discussion, sharing of insights and intelligence, of relevant issues related in a significant way to oil, gas and energy issues: Policy, legislation, contracting, security strategy, climate change related to energy.

Wind Energy, Benefit-Sharing and Indigenous Peoples: Lessons from the Isthmus of Tehuantepec, Southern Mexico

Paola Velasco Herrejon and Annalisa Savaresi***

Abstract

This article looks at the practice of benefit-sharing in wind energy projects in indigenous peoples' lands in the Isthmus of Tehuantepec, Mexico. The aim is to gauge how the procedural, distributive and recognition justice associated with the development of renewable energy generation capacity have been addressed, the challenges experienced and the solutions that may be adopted to address these. The paper is organised as follows. After an introduction setting out the research questions, context and background of the paper, part two unpacks the justice questions associated with benefit-sharing in the context of renewable energy generation. Part three looks at how these questions have been addressed in practice, in the context of renewable energy projects in the Isthmus of Tehuantepec. Part four reflects on what our case study has revealed about the use of benefit-sharing as a means to engender energy justice.

1. Introduction

The concept of benefit-sharing is closely linked with that of social license to operate (SLO)[1] discussed in this special issue. Benefit-sharing often is a pre-requisite to obtain an SLO and increase the social acceptance of projects. Indeed, benefit-sharing arrangements are widespread practice in various natural resource management and extractive activities, both to mitigate the negative impacts of, and reduce opposition to, projects and increase their social acceptance.[2] The contours of developers' obligations in the energy sector are context specific and depend on the applicable legal frameworks, as well as on industry practices. Communities living in the vicinity of a project typically receive various economic and non-economic advantages from developers, including for example monetary payments per capacity installed, as well as electricity at discounted prices or the development of common facilities for recreation.[3]

* PhD Candidate, University of Cambridge: pv296@cam.ac.uk. The author is grateful to CONACYT for funding this research (CVU No. 469917).

** Lecturer in Environmental Law, University of Stirling: annalisa.savaresi@stir.ac.uk Dr Savaresi gratefully acknowledges the support received for the preparation of this paper from the project "BENELEX: Benefit-sharing for an equitable transition to the green economy - the role of law" (https://www.strath.ac.uk/research/strathclydecentreenvironmentallawgovernance/benelex/) Grant number 335592, funded by the European Research Council Starting Grant.

[1] N. Hall and others, 'Social Licence to Operate: Understanding How a Concept Has Been Translated into Practice in Energy Industries' (2015) 86 Journal of Cleaner Production 301.

[2] *See* Elisa Morgera, 'The Need for an International Legal Concept of Fair and Equitable Benefit Sharing' (2016) 27 European Journal of International Law 353.

[3] As explained e.g. in LeRoy C Paddock and Max Greenblum, 'Community Benefit Agreements for Wind Farm Siting in Context' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity: Legal Change and Impact on Communities* (Oxford University Press 2016) 180; Anita Rønne, 'Opposition to Wind Farms and Possible Responses of the Legal System' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity: Legal Change and Impact on Communities* (Oxford University Press 2016).

This paper specifically looks at the practice of benefit-sharing in wind energy projects in indigenous peoples' lands. The creation of wind energy projects in remote and rural communities is commonly regarded as a win-win strategy to 'ensure access to affordable, reliable, sustainable, and modern energy for all'[4], while at the same time creating development opportunities for often marginalised and impoverished groups. Indeed, in recent years rural and local communities around the world have 'unwittingly' become 'protagonists of the energy transition'.[5]

As with any other change of the *status quo*, however, the quest for the tools to move away from fossil fuels based energy systems raises questions on the ways in which change is enacted, and the associated justice implications.[6] In other words, while reliance on fossil-fuel based energy generation and the related governance arrangements undoubtedly created winners and losers, changing the *status quo* entails finding new equilibria,[7] engendering change at the pace and scale needed.[8] The profound social, economic and environmental impacts of renewable energy projects therefore have raised again familiar questions about governance and decision-making in capitalist societies[9]. Much scholarship in recent years has considered how to address the procedural,[10] distributive[11] and recognition[12] justice questions associated with the expansion of renewable energy generation capacity. Little of this literature, however, has specifically considered these questions in the context of developing countries and of indigenous peoples' lands. There is, in other words, a gap in the literature

[4] Transforming Our World: The 2030 Agenda for Sustainable Development, UN Doc A/RES/70/1 (25 September 2015) 54.
[5] Annalisa Savaresi, 'The Rise of Community Energy from Grassroots to Mainstream: The Role of Law and Policy' [2019] Journal of Environmental Law.
[6] *See* e.g. B. Sovacool, *Energy and Ethics: Justice and the Global Energy Challenge* (Palgrave Macmillan UK 2013); Benjamin K Sovacool and others, 'Energy Decisions Reframed as Justice and Ethical Concerns' (2016) 1 Nature Energy 16024; Kirsten Jenkins and others, 'Energy Justice: A Conceptual Review' (2016) 11 Energy Research & Social Science 174.
[7] *See* Ioan Fazey and others, 'Transformation in a Changing Climate: A Research Agenda' (2017) 9 Climate and Development 1, 10.
[8] *See* Laurence L. Delina and Benjamin K. Sovacool, 'Of Temporality and Plurality: An Epistemic and Governance Agenda for Accelerating Just Transitions for Energy Access and Sustainable Development' (2018) 34 Current Opinion in Environmental Sustainability 1.
[9] D. Shearman and J.W. Smith, *The Climate Change Challenge and the Failure of Democracy* (Praeger, 2007)
[10] *See* e.g. Maria Lee and others, 'Public Participation and Climate Change Infrastructure' (2013) 25 Journal of Environmental Law 33; Marjan Peeters and Sandra Nóbrega, 'Climate Change-Related Aarhus Conflicts: How Successful Are Procedural Rights in EU Climate Law?' (2014) 23 RECIEL 354; Chiara Armeni, 'Participation in Environmental Decision-Making: Reflecting on Planning and Community Benefits for Major Wind Farms' (2016) 28 Journal of Environmental Law 415.
[11] *See* e.g. Rønne (n 3); Paddock and Greenblum (n 3); Aileen McHarg, 'Community Benefit Through Community Ownership of Renewable Generation in Scotland: Power to the People?' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity* (Oxford University Press 2016).
[12] Gillian Bristow, Richard Cowell and Max Munday, 'Windfalls for Whom? The Evolving Notion of "Community" in Community Benefit Provisions from Wind Farms' (2012) 43 Geoforum 1108; Barry Barton and Michael Goldsmith, 'Community and Sharing' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity: Legal Change and Impact on Communities* (Oxford University Press 2016); Franziska Mey and Mark Diesendorf, 'Who Owns an Energy Transition? Strategic Action Fields and Community Wind Energy in Denmark' (2018) 35 Energy Research & Social Science 108; Martha Roggenkamp, 'The Position of Citizens in Energy Production in the Netherlands Is a New Approach Emerging?' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity* (Oxford University Press 2016).

concerning the use of benefit-sharing in the wind energy sector in developing countries and in areas inhabited by indigenous people

Pursuant to a case-study approach this paper set out to bridge this gap, by considering the practice of benefit-sharing in renewable energy projects on indigenous peoples' lands in Mexico. The aim is to gauge how the procedural, distributive and recognition justice associated with the development of renewable energy generation capacity have been addressed, the challenges experienced and the solutions that may be adopted to address these. The paper is organised as follows. Part two unpacks the justice questions associated with benefit-sharing in the context of renewable energy generation. Part three looks at how these questions have been addressed in practice, in the context of renewable energy projects in Mexico. Part four provides reflections on what our case study revealed about the use of benefit-sharing as a means to obtain increase social acceptance of projects and engender energy justice.

2. Wind Energy and Justice

Like any other development, renewable energy projects create winners and losers, and require that new equilibria be found between societal interests intersecting in a specific site.[13] Pasqualetti notes how, compared with other energy sources, wind energy generation is not 'out of sight, out of mind', which in turn explains why it has generated intense public controversy.[14] Citizens around the world have found the process of 'learning to love the landscapes of carbon neutrality' rather difficult,[15] not only for loss of amenity reasons, but also because of the reawakening of tensions concerning power, recognition and fairness associated with the planning and siting of wind farms.

The feeling that wind projects are 'someone else's idea, for someone else's benefit and for someone else's profit' is widely reported in empirical studies on renewable energy development.[16] In other words, the development of renewable energy projects raises important procedural and recognition justice questions, and simply disregarding these may lead to clashes between developers and those living nearby a project site.[17]

As a matter of fact, the benefits and burdens associated with the expansion of wind energy generation are usually not evenly spread: benefits of reduced greenhouse gas emissions are typically diffuse, reaching the national and even the global level, but the related costs are very local.[18] Economic benefits are equally often skewed: subsidised profits are enjoyed by corporations, while only few economic benefits, such as land rental payments and jobs, actually reach local people. This uneven distribution of benefits tends to be even more exacerbated in developing countries, as most of the areas with high wind power potential are located in remote lands, where indigenous peoples and other marginalised segments of the

[13] As argued also in Savaresi (n 5) 18.
[14] See the literature review carried out in M.J. Pasqualetti, 'Morality, Space, and the Power of Wind-Energy Landscapes' (2001) 90 The Geographical Review 381.
[15] P. Selman, 'Learning to Love the Landscapes of Carbon-Neutrality' (2010) 35 Landscape Research 157.
[16] M.J. Pasqualetti, 'Opposing Wind Energy Landscapes: A Search for Common Cause' (2011) 101 Annals of the Association of American Geographer 907.
[17] G.C. Ledec, K.W. Rapp and R.G. Aiello, 'Greening the Wind. Environmental and Social Considerations for Wind Power Development' (World Bank 2011); Maria Lee, 'Knowledge and Landscape in Wind Energy Planning' (2017) 37 Legal Studies 3.
[18] Paddock and Greenblum (n 3), 153; McHarg (n 11), 303.

population live. Wind farm developments are often located in low income and remote places that do not have access to electricity, or only do so at very high costs.[19] In these contexts, renewable energy is not produced for local populations, raising significant distributive justice questions.[20]

In energy and natural resources law, benefit-sharing arrangements have long been used to allocate economic as well as socio-cultural advantages produced by the generation of energy or the extraction and/or management of resources.[21] These arrangements have increasingly been used to compensate, reward and involve diverse stakeholders in climate change adaptation and mitigation activities, for example in the forest sector.[22]

More generally, in environmental governance, benefit-sharing arrangements are moving away from practices motivated solely by the aim to ensure social acceptability. They are increasingly viewed as means to empower stakeholders, rewarding them for the provision of ecosystem services and traditional knowledge and enabling their participation in relevant decision-making processes.[23] This understanding of benefit-sharing, therefore, entails some community agency, in contrast with more passive relations, where communities are mere benefits receivers. In this conceptualisation, benefit-sharing is distinct from a top-down flow of benefits where stakeholders define the benefits and how they will be distributed. Nevertheless, the normative contours of benefit-sharing remain elusive.[24]

In the context of renewable energy, developers' obligations in relation to benefit-sharing clearly depend on the applicable legal frameworks, but also on industry practices. So in a given context benefit-sharing arrangements may be the result of requirements embedded in the law, voluntary guidelines adopted by national and subnational governments, or corporate social responsibility practices.[25] Benefit-sharing practices in the wind energy sector often build upon those developed in the extractive and mining sectors, with local communities living in the vicinity of a project receiving various economic and non-economic advantages

[19] E.C. Jara, 'Problemática En Torno a La Construcción De Parques Eólicos En El Istmo De Tehuantepec' (2011) 4 Revista Desarrollo Local Sostenible 12; CCC, 'Historias y Aprendizajes Sobre El Desarrollo de La Energía Eólica En México' (Centro de Colaboración Cívica); C. Howe, 'Anthropocenic Ecoauthority: The Winds of Oaxaca' (2014) 87 Anthropol Q 381.

[20] As noted also in Lila Barrera-Hernandez, 'Indigenous Peoples and Free, Prior, and Informed Consent in Latin America' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity* (Oxford University Press 2016); McHarg (n 11), 315; Marie Leer Jørgensen, 'Compensation Schemes and Distributive Fairness in Wind Energy Projects' (European Environmental Law Forum Annual Conference, Copenhagen, 2017) <http://law.au.dk/fileadmin/Jura/dokumenter/forskning/EELF/MARIE_LEER__31.08.pdf> accessed 26 July 2018.

[21] Carolyn Fisher, 'International Experience with Benefit-Sharing Instruments for Extractive Resources' (Resources for the Future 2007) <http://www.rff.org/research/publications/international-experience-benefit-sharing-instruments-extractive-resources> accessed 7 June 2016; Lila Barrera-Hernandez and others (eds), 'Introduction', *Sharing the Costs and Benefits of Energy and Resource Activity: Legal Change and Impact on Communities* (Oxford University Press 2016).

[22] Annalisa Savaresi, 'The Emergence of Benefit-Sharing Under the Climate Regime. a Preliminary Exploration and Research Agenda' (2014) SSRN Scholarly Paper <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2524335> accessed 8 January 2015; Annalisa Savaresi and Kim Bouwer, 'Equity and Justice in Climate Change Response Measures: Benefit Sharing as a Safeguard' in T Jafry (ed), *Routledge Handbook of Climate Justice* (Routledge 2018).

[23] Morgera (n 2).

[24] Elisa Morgera, 'Under the Radar: Fair and Equitable Benefit-Sharing and the Human Rights of Indigenous Peoples and Local Communities Related to Natural Resources' (2019) *International Journal of Human Rights.*

[25] Savaresi (n 5), 18.

from project developers.[26] The widespread practice of benefit-packages typically entails monetary payments per capacity installed, but developers may also provide other economic benefits, such as electricity at discounted prices or grants to support energy efficiency. Indeed, the practice of offering shares in projects developed by commercial operators may in and of itself be viewed as a means to share economic benefits with local communities.[27] Project developers may furthermore offer local communities other non-monetary benefits, such as the development of common facilities for recreation, education, etc. The latter, however, raises the question of the extent to which benefit-sharing becomes a means for the provision of public services, which should be available to communities regardless of the generation of renewable energy.[28] In addition, benefit packages provided by developers often underplay or fail to take into proper account the spiritual values attached to land, further undermining social acceptability of wind energy developments.[29]

The practice of so-called 'community protocols' –borrowed from other areas from natural resource management[30]–has been increasingly used also in the energy sector as a means to empower communities in the context of their relations with developers and public authorities. External brokers have played an important role in supporting communities in the design and establishment of model protocol templates and, more generally, in engendering community capacity to negotiate benefits.[31] Some law-makers have also adopted guidelines on community benefits. There is, however, a great deal of variation amongst states, and even within the same state.[32]

One exception to this rather fragmented regulatory picture concerns indigenous peoples, whose right to mutually acceptable benefit-sharing arrangements for extractive activities and developments taking place on their lands is recognised in international law.[33] Indigenous peoples enjoy the right to Free Prior Informed Consent (FPIC) for projects carried out on their lands and territories.[34] This right applies also in relation to renewable energy projects[35]

---

[26] As explained e.g. in Rønne (n 3) 180; Savaresi (n 5), 18.

[27] As suggested in Rønne (n 3); McHarg (n 11) 301–302.

[28] As suggested for example in Rachel Wynberg and Maria Hauck, 'Sharing the Benefits from the Coast' in Rachel Wynberg and Maria Hauck (eds), *Sharing Benefits from the Coast: Rights, Resources and Livelihoods* (University of Cape Town Press 2014).

[29] Richard Cowell, Gill Bristow and Max Munday, 'Acceptance, Acceptability and Environmental Justice: The Role of Community Benefits in Wind Energy Development' (2011) 54 Journal of Environmental Planning and Management 539.

[30] See e.g. Harry Jonas, Kabir Bavikatte and Holly Shrumm, 'Community Protocols and Access and Benefit Sharing' (Natural Justice 2010) <http://naturaljustice.org/wp-content/uploads/pdf/community_protocols_and_ABS-Asian_biotech_devt_review.pdf>; Louisa Parks, 'Challenging Power Asymmetries from the Bottom Up? Community Protocols and the Convention on Biological Diversity at the Global/Local Crossroads' (Social Science Research Network 2016) *Geoforum* 88 (2018) 87–95.

[31] As reported e.g. in Bristow, Cowell and Munday (n 12) 1115.

[32] This matter is further discussed in Savaresi (n 5), 21.

[33] International Labour Organization's (ILO) Convention no. 169 Concerning Indigenous and Tribal Peoples in Independent Countries 1989, 28 ILM 1382. See also UN Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous peoples, Report UN Doc. E/CN.4/2003/90, 66; and 2012 Expert Mechanism: Follow-up report on indigenous peoples and the right to participate in decision-making with a focus on extractive industries UN Doc. A/HRC/21/52 and A/HRC/21/55, 39.

[34] UNDRIP, Article 19 and the review of practice in International Law Association, The Hague Conference Report, Rights of Indigenous Peoples (2010), 51; and in UN-REDD Programme, 'Legal Companion to the UN-REDD Programme Guidelines on FPIC' (UN-REDD 2012) <http://www.unredd.net/index.php?view=document&alias=8792-legal-companion-to-the-un-redd-programme-

In some areas on environmental policy, the right to FPIC has been extended to local communities.[36] This extension is, however, far from being established practice in the energy context, where local communities appear to enjoy a lesser degree of protection, when compared with indigenous peoples. Even in relation to indigenous peoples, benefit-sharing arrangements are often problematic. Renewable energy projects may become more locally divisive and controversial if benefits are not equitably shared among local people. There are, in other words, problematic distributive, procedural and recognition justice questions regarding how a given community is defined, who speaks for it, who participates in the negotiation process and how and to what extent should the community exert a veto power.[37]

In spite of their widespread uptake, the literature reports how benefit-sharing arrangements still tend to be perceived as a bribe to secure project approval and/or minimise public resistance.[38] And while some authors point to the advantages of greater benefits institutionalisation associated with shared project ownership[39] and of spelling out benefits in more positive terms,[40] increasing opposition to the development of wind farms in countries that have adopted an institutionalised approach to benefit-sharing does not necessarily corroborate this proposition, further demonstrating that distributive justice considerations remain a concern.[41]

In sum, the question of how to guarantee a fair distribution of benefits and burdens associated with the expansion of renewable energy generation capacity is still very much an open one.[42] These questions are particularly crucial in relation to vulnerable groups, such as indigenous peoples. In the following section, data from the growing wind energy sector in the Isthmus of Tehuantepec is used to gauge how benefit-sharing arrangements have addressed the core distributive, procedural and recognition justice questions expounded above.

---

guidelines-on-fpic-8792&category_slug=legal-companion-to-fpic-guidelines-2655&layout=default&option=com_docman&Itemid=134> accessed 22 March 2017.

[35] *See* e.g. Lila Barrera-Hernandez, 'Indigenous Peoples and Free, Prior, and Informed Consent in Latin America' in Lila Barrera-Hernandez and others (eds), *Sharing the Costs and Benefits of Energy and Resource Activity* (Oxford University Press 2016).

[36] *See* e.g. Nagoya Protocol, Articles 6.2 and 7. See the analysis in Annalisa Savaresi, 'The International Human Rights Law Implications of the Nagoya Protocol' in Elisa Morgera, Matthias Buck and Elsa Tsioumani (eds), *The 2010 Nagoya Protocol on Access and Benefit-sharing in Perspective* (Martinus Nijhoff 2013),75-78 and Framework Principles on Human Rights and the Environment, UN Doc (A/HRC/37/59), Principle 15.

[37] Mhairi Aitken, Seonaidh McDonald and Peter Strachan, 'Locating "Power" in Wind Power Planning Processes: The (Not so) Influential Role of Local Objectors' (2008) 51 Journal of Environmental Planning and Management 777; Savaresi (n 5), 8.

[38] *See* e.g. Aitken, McDonald and Strachan (n 37); Noel Cass, Gordon Walker and Patrick Devine-Wright, 'Good Neighbours, Public Relations and Bribes: The Politics and Perceptions of Community Benefit Provision in Renewable Energy Development in the UK' (2010) 12 Journal of Environmental Policy & Planning 255; Benjamin JA Walker, Duncan Russel and Tim Kurz, 'Community Benefits or Community Bribes? An Experimental Analysis of Strategies for Managing Community Perceptions of Bribery Surrounding the Siting of Renewable Energy Projects' (2017) 49 Environment and Behavior 59.

[39] *See* e.g. Walker, Russel and Kurz (n 165) 78.

[40] *See* e.g. David Rudolph, Claire Haggett and Mhairi Aitken, 'Community Benefits from Offshore Renewables: The Relationship between Different Understandings of Impact, Community, and Benefit' (2017) 36 Environment and Planning C: Politics and Space 91,102.

[41] *See* Mey and Diesendorf (n 12).

[42] As acknowledged also in Bill Slee and Jelte Harnmeijer, 'Community Renewables: Balancing Optimism with Reality' in Wood, Geoffrey and Keith Baker (eds), *A Critical Review of Scottish Renewable and Low Carbon Energy Policy* (Palgrave Macmillan 2017); McHarg (n 11), 315; Savaresi (n 5), 11-12.

3. Benefit-sharing in the Isthmus of Tehuantepec: Theory and Reality

Mexico has great wind energy generation potential, and the Isthmus of Tehuantepec region has been identified as one of the best areas to establish wind farms,[43] with a potential to supply up to 7% of the country's energy needs.[44] The Isthmus of Tehuantepec is located in Oaxaca, one of the three states with the highest percentage of indigenous population in Mexico.[45] The Mixe, Zoque, Popoluca, Chontal, Huave, Náhuatl and Zapoteco have populated this region since pre-Hispanic times. Indigenous peoples in Mexico are generally characterized as groups who deserve special attention, due to the profound social disadvantage they suffer in relation to the rest of the Mexican population. The National Population Council notes how 84% of the municipalities in the Isthmus of Tehuantepec face a moderate, high and very high grade of marginalisation.[46] According to the National Institute of Statistics and Geography, this marginalisation is related to deficiencies in basic education and housing, residence in small, dispersed and isolated localities, and low monetary income.[47]

Mexico as a whole has 43.4 coefficient in the GINI 2016 Index[48] and income inequality greatly affects the Isthmus, as a result of the legacy of colonisation and discrimination against indigenous and non-whites.[49] All these factors intersect in a region where social conflict has been a main feature for centuries.[50] Following a major energy reform in 2008 that facilitated international private capital investments,[51] large international utility companies – such as Acciona, Iberdrola, Gas Natural Fenosa, EDF, Enel, and Mexico's CFE– started to operate in the Isthmus, producing up to 3,527MW in 2016.[52] Nevertheless, negotiations with indigenous landowners have taken place without a clear legislative framework, resulting in political conflict, economic loss, and social disruption within a region historically already marked by poverty and ethnic struggles. While on paper the establishment of wind farms was a good opportunity for the region, lack of social acceptance and negative social impacts are putting further investments at risk.

This state of affairs has already attracted some scholarly interest, and two major studies have examined the divergent stakeholder perceptions on the existing conflict.[53] These studies have

[43] S Nahmad, A Nahón and R Langlé, 'La Visión De Los Actores Sociales Frente a Los Proyectos Eólicos Del Istmo De Tehuantepec' (2014).
[44] R Henestroza Orozco, 'Centrales Eólicas En El Istmo De Tehuantepec; Su Impacto Ambiental Y Socioeconómico. Elementos' (Universidad de Puebla 2008).
[45] INEGI, 'Hablantes De Lengua Indígena En México' (INEGI 2015) <http://cuentame.inegi.org.mx/poblacion/lindigena.aspx?tema=P>.
[46] INMUJERES, 'Las Mujeres Indígenas De México: Su Contexto Socioeconómico, Demográfico Y De Salud' (Instituto Nacional de las Mujeres 2006) 46.
[47] INEGI (n 45).
[48] Data extrapolated from: World Bank2016 GINI index <https://data.worldbank.org/indicator/SI.POV.GINI?end=2016&locations=MX&start=2004>
[49] F. Comim, 'The Post-2015 Global Development Agenda: A Latin American Perspective' (2015) 27 Journal of International Development 330.
[50] Nahmad, Nahón and Langlé (n 43).
[51] International Renewable Energy Agency, 'Renewable Energy Prospects: Mexico' (IRENA 2015) <http://www.irena.org/documentdownloads/publications/irena_remap_mexico_summary _2015.pdf>.
[52] GWEC, 'Global Wind Report 2016' (2016) <https://gwec.net/publications/global-wind-report-2/global-wind-report-2016/> accessed 14 February 2019.
[53] Nahmad, Nahón and Langlé (n 43); CCC (n 19).

suggested that failure to distribute benefits within local communities has been one of the main causes for opposition.

The Isthmus of Tehuantepec is therefore a good place to conduct an inquiry to analyse the complex justice questions associated with the energy transition and the expansion of renewable energy generation capacity, in the context of the poor and marginalized areas where indigenous populations live. The remainder of this paper looks more closely at this matter, providing a state of the art of benefit-sharing in Mexico's wind energy industry, and analysing the relationship between indigenous peoples' FPIC and benefit-sharing in the Isthmus of Tehuantepec.

The data informing the present study was collected through 89 semi-structured interviews, conducted with stakeholders in three communities of the Isthmus of Tehuantepec region. The stakeholders included people that own land where the wind farms are established, farmers, agrarian authorities, and people affected by wind farms that do not receive benefits. These stakeholders were asked to provide their perspectives on legislative instruments for benefit-sharing and public engagement/governance decisions in Mexico's wind energy sector. Participants were selected to provide a balanced representation of age, gender, ethnicity, and socioeconomic status. In addition, a survey questionnaire was completed by 557 participants across three communities where wind farms have already been installed and have further developments planned.

Two expert focus groups were furthermore held in connection with the 'X Regional Forum on the Transformation of Socio-environmental Conflicts in Latin America', which took place in Mexico City on 28 and 29 of November 2018. The forum's participants included representatives of energy and mining companies, members of local, state, and national governments, representatives of NGOs and academia from Latin American countries. The focus groups explored the main obstacles to benefit-sharing between developers, governments and communities, the practices to institutionalise benefit-sharing arrangements at the regional level, and the extent to which accountability and dialogue may increase the perceived 'fairness' of benefit sharing schemes.

3.1 The Practice of Benefit-sharing in Mexico's Wind Energy Sector

Mexico's legal framework on renewable energy does not make any reference to benefit-sharing arrangements. Nevertheless, the Constitution affirms that all people shall enjoy the human rights recognized in it, as well as in the international treaties to which the Mexican State is a party.[54] As mentioned above, indigenous peoples' right to mutually acceptable benefit-sharing for extractive activities and developments taking place on their lands is recognised in international law.[55] Mexico is a party to ILO Convention 169 on Indigenous and Tribal Peoples, which establishes that states must consult the peoples concerned, through appropriate procedures and in particular through its representative institutions, whenever legislative or administrative measures are contemplated that may affect them directly.[56] The Convention stipulates that indigenous peoples' rights to the natural resources existing on their lands should be protected.[57] These rights include the right of indigenous peoples to

[54] Constitution of Mexico, Article 1.
[55] *See* n 33 above and corresponding text.
[56] ILO Convention 169, Article 6, section 1, subparagraph a.
[57] Ibid. Article 15.1.

participate in the use, administration and conservation of said resources. The Mexican Constitution guarantees indigenous peoples' right to self-determination,[58] but also affirms that the Government has the right to regulate the exploitation of natural resources with the aim of distributing wealth equitably.[59] The Electric Industry and Hydrocarbons Law obliges interested parties to carry out negotiations and agreements in a transparent form, identifying both the positive and negative impacts of projects.[60]

In 2017 the Mexican Ministry of Energy and the Inter-American Development Bank prepared an Action Protocol on Shared Social Benefits (PROBESCO).[61] This non-binding instrument is meant to be used as a reference for stakeholders to understand what benefit-sharing is and when does it apply and by whom. The protocol defines benefit-sharing as arrangements provided by developers to contribute to the development of local communities in the short, medium and long term.[62] It clarifies that shared-benefits are different from measures to prevent, mitigate or compensate negative impacts caused by developments, rents payed for surface use, taxes, and social infrastructure that was built for the use of the project itself. The document suggests that 1% of the initial investment to be given as benefits for the community during the stage of preparation and construction, and 1% of the annual income to be provided during the stage of production. This fund is to be managed by a legal entity appointed by local communities.

The guidance included in PROBESCO is merely voluntary, and wind energy developers in the Isthmus of Tehuantepec are not formally obliged to provide community benefits. The lack of institutionalisation of benefit-sharing has led to the development of corporate practices that are implemented on an *ad hoc* basis and at the developer's discretion. As a consequence, developers consider their contributions as altruistic and not as the right of indigenous communities to decide and profit from their land and resources. And, even though benefit-sharing should happen irrespective of communities' consent, developers often only offer benefits in exchange for acceptance of new windfarms or enlargement of existing ones. Landowners with a *contrato de apartado* – a contract to set-aside their land in promise of a new development – reportedly promote benefit-sharing packages in an effort to engender support for new wind energy projects.[63]

During our interviews, a group of local tradeswomen described this practice as 'buying our will' and 'profiting from our situation of poverty'[64], thus seemingly corroborating the suggestion that benefit sharing schemes are often considered as bribes by recipients.[65] Indigenous peoples interviewees also believed that developers provide benefit packages because they are required to do so by law, but could not identify the source of that obligation.

According to PROBESCO, benefit-sharing arrangements should be based in information provided by studies of social feasibility, such as the Social Impact Assessment and the preliminary proposals for the project's Social Management Plan. PROBESCO also specifies

[58] Constitution of Mexico, Article 2.
[59] Ibid, Article 27.
[60] Electric Industry and Hydrocarbons Law, Article 74.
[61] Bazbaz Kuri, S. (2017) *Protocolo de Actuación sobre Beneficio Sociales Compartidos de Proyectos Energéticos (PROBESCO)*. Unpublished report of Ministry of Energy Mexico
[62] Ibid.
[63] Interview transcripts on file with the author.
[64] Interview transcripts on file with the author.
[65] Walker, Russel and Kurz (n 38); Cass, Walker and Devine-Wright (n 38).

that benefit-sharing arrangements should not prejudge indigenous peoples' free consent to the development of an energy project, and should not be set as a precondition for acceptability.

Indigenous peoples' right to FPIC is part and parcel of their right to self-determination and to benefit from the development of their land.[66] It is therefore potentially a powerful tool to operationalise indigenous rights in the context of renewable energy projects.[67] Benefit-sharing and FPIC interact in main two ways. As Morgera notes, on the one hand, benefit-sharing may serve as a condition for conceding FPIC, resulting in culturally appropriate and effective consultations. On the other hand, it may represent the result of a FPIC process, providing a tangible expression of the agreement based on what local communities understand and prefer.[68]

Mexico's Electricity Industry Law has established a procedure to obtain FPIC for developments on indigenous peoples' lands.[69] The Ministry of Energy has been entrusted to carry out the necessary consultations and preparatory activities, in coordination with the Ministry of the Interior and the relevant authorities.[70] Pursuant to this mandate, the Ministry of Energy has developed a proposal for national legislation on benefit-sharing within indigenous lands. At the time of writing, however, no legislation has been adopted. In the meantime, the practice of project development has revealed a series of challenges, associated with defining the scope communities to be involved in FPIC and benefit-sharing arrangements; as well as with defining the roles of government and of developers. The next sections of the paper explore each of these challenges in turn.

3.2 Defining Communities

As noted above, defining who is the community to be consulted in the context of renewable energy projects is often a complex endeavour, which raises a host of procedural and recognition justice questions.[71] The delimitation of the scope of community may in and of itself result in divisions within a community and group conflict.[72] The composition and character of a community are political and thus vulnerable to resolutions that may not always be just and democratic. It is therefore important to acknowledge that, also in relation to renewable energy projects, there is not a single local community, but several interested local groups within a community, and even within different groups, stakes and perspectives may differ.[73]

The literature has depicted communities in the Isthmus of Tehuantepec as romantic entities, as opposed to larger, more diverse, and sometimes conflicting forms of association, drawing

[66] United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007) A/RES/61/295 ['UNDRIP'], articles 10, 11, 19, 23, 28, 29, 30 and 32.
[67] Barrera-Hernandez (n 20).
[68] Morgera (n 2).
[69] Electricity Industry Law 2014.
[70] Ibid. Article 119
[71] Aitken, McDonald and Strachan (n 37); Barton and Goldsmith (n 12); and Savaresi (n 5), 20.
[72] Barton and Goldsmith (n 12).
[73] Aitken, McDonald and Strachan (n 37); Bregje van Veelen and Claire Haggett, 'Uncommon Ground: The Role of Different Place Attachments in Explaining Community Renewable Energy Projects' [2016] Sociologia Ruralis <http://onlinelibrary.wiley.com/doi/10.1111/soru.12128/abstract> accessed 6 March 2017; Bregje van Veelen, 'Negotiating Energy Democracy in Practice: Governance Processes in Community Energy Projects' (2018) 27 Environmental Politics 644.

on ideals of pre-industrial societies.[74] This depiction, however, is problematic, since there is not a single local community, but several groups with different interests and perspectives. As elsewhere, therefore, community 'is a contested, multi-dimensional concept, based on identity, practice, objectives and the places to which these apply'.[75]

The interplay between the notion of community and that indigenous peoples is also complicated. These terms are often used together and even interchangeably to support ideas of assertion, self-determination and resistance.[76] Nevertheless, to assume that a community will be collective, democratic and functional just because it is indigenous is misleading.[77] Within an indigenous community exist power imbalances that enable certain stakeholders to participate in decisions and not others, and hierarchies of gender, race and class also apply.

In Mexico there is no official definition of who qualifies as indigenous. This aligns with international law practice, whereby representatives from indigenous organisations have rejected the adoption of a formal definition,[78] and preferred to use self-identification in its stead.[79] Self-identification is therefore the most important element to be considered, in combination with other elements such as attachment to territory and language.[80]

People in the Isthmus of Tehuantepec are reluctant to describe themselves as indigenous people. In the Isthmus, citizens labelled as 'indigenous' have been regarded as a second-class citizen, as explained by a community cultural officer in one of our interviews: 'many people (..) do not assume themselves as indigenous. This is because they believe that having an education takes away your indigenous armour, as if because of being indigenous you could not have the possibility of having an appropriate education…'. Nevertheless, FPIC process associated with developments have enabled local populations to partake in processes that they would not be able to do otherwise, resulting in an increase of indigenous self-identification in the region.

3.3 Defining Benefits

Interviewees in the Isthmus noted that, though wind farms had provided communities with some benefits, these were partly co-opted by landowners, who claimed that they were the community affected by wind farms. And, even if benefit-packages had reached the local government, these were distributed at the discretion of the authorities, who used these mainly

[74] A Dunlap, ''The Town Is Surrounded': From Climate Concerns to Life Under Wind Turbines in La Ventosa, Mexico' (2017) 10 Human Geography 16; Howe (n 19); Cymene Howe, Dominic Boyer and Edith Barrera, 'Los Márgenes Del Estado Al Viento: Autonomía Y Desarrollo De Energías Renovables En El Sur De México' (2015) 20 The Journal of Latin American and Caribbean Anthropology 285; Jara (n 19).
[75] Katrina Myrvang Brown, 'Understanding the Materialities and Moralities of Property: Reworking Collective Claims to Land' (2007) 32 Transactions of the Institute of British Geographers 507.
[76] Barton and Goldsmith (n 12) 37.
[77] Barrera-Hernandez (n 20) 85.
[78] See UN Commission on Human Rights, "Discrimination Against Indigenous Peoples. Report of the Working Group on Indigenous Populations on its Fourteenth Session," (16 August 1996) UN Doc E/CN.4/Sub.2/1996/21.
[79] International Law Association, The Hague Conference Report, Rights of Indigenous Peoples, (2010) 6.
[80] Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous Peoples, 'Report on the Situation of Human Rights and Fundamental Freedoms of Indigenous Peoples: The Human Rights of Indigenous Peoples in Light of the New Declaration, and the Challenge of Making Them Operative' (2008) A/HRC/9/9.

for political purposes. Benefit-sharing therefore has been favourable to certain groups, parties or interests, but not to others.

In wind farm developments, property rights are a key determinant to the distribution of costs and benefits. Wind energy developments grant landowners power over decision making on how to manage and invest on their land, leaving neighbouring, landless communities little opportunity to influence decision-making.[81] As a result, there is resentment over the ability of landowners to profit and make decisions about the development of wind farms, in ways that other local inhabitants cannot. In the Isthmus, landowners often do not inhabit the land neighbouring a wind farm, and thus make decisions without taking into consideration the concerns of local residents living in the immediate vicinity of the wind turbines. Moreover, land tenure is still in dispute in many sites, and local stakeholders have demanded that these disputes be solved before agreeing the lease of the land.

Finally, even when defined by the community, benefit-sharing arrangements are not always sustainable. Wind energy developers benefit-sharing packages range from cash payments to landowners and/or municipalities, or in-kind payments, such as seeds or farm tools and equipment, to social infrastructure such as roads, sewage system, and additions to hospitals and schools. Cash payments entail a series of decision-making processes that often result in conflicting views on how these funds should be used. In kind benefits can also be problematic. In kind benefits that involve services usually given by the government such as roads, schools and hospitals have meant that developers have slowly undertaken state responsibilities, as suggested in the literature.[82] This has special implications in the Isthmus of Tehuantepec, where 88% of the participants in our survey expressed the belief that the government is responsible for their well-being. In this context, companies may become responsible of providing basic services to the population, compromising their long-term social security.

3.4 The Role of Government

Benefit-sharing within communities often relies on local authorities collecting and distributing resources.[83] Nevertheless, the literature suggests that sudden revenues from natural resources can be a trap for governments with weak institutions, putting additional stress on democracy, rule of law, integrity in public services, and planning.[84]

In the early stages of the development of the wind energy industry in the Isthmus of Tehuantepec, the local and state government could be labelled as 'absent'. They would not interfere in landowners-developer meetings or in the arrangements that they made regarding rent payments and benefits. Therefore, they did not have a formal role and did not intervene, even in cases where one of the parties did not respect the contracts. There were numerous legal voids in these contracts, and often local leadership, such as *Comisariados Ejidales* (leaders of an ejido piece of land farmed communally under a system supported by the state) was transformed into a commodity. Rather crucially, there was, and there still is a lack of responsibility definition in these contracts.

[81] As noted also in McHarg (n 11), 298.
[82] See note 28 above,
[83] Barton and Goldsmith (n 12).
[84] Paul Collier, *The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done About It* (1 edition, Oxford University Press, USA 2008) 49.

As mentioned above, under Mexican law, FPIC requires local governments to establish the procedure to be followed and lead in its implementation. This arrangements has exposed the fragility of local institutions, lack of support from other levels of government in terms of resources and capacity, and a lack of trust from local communities.[85] Therefore, although delegating the coordination of the FPIC to the government may have seen like an obvious solution, this has proven problematic. The Ministry of Energy is in charge of the FPIC process, but also of meeting the targets for national renewable energy production. The ministry therefore clearly has a vested interest in having projects approved, and been placed in a conflict of interest position. Moreover, the ministry has assigned minimal resources to FPIC, with only three members of staff in charge of revising projects' Social Impact Assessments and coordinating consultations nationally.

Given this state of affairs, it is unsurprising that 77% of our interviewees indicated that they did not trust the local authority and expressed dissatisfaction with the fact that resources were being used for political and/or personal purposes. This situation of distrust is hardened in a region, where local governments have systematically neglected the plight of indigenous peoples. As a result, communities often take advantage of the forum provided by FPIC processes to air grievances concerning colonial legacy and earlier unsuccessful development projects in the region.

3.5 The Role of Developers

For developers, the lack of clear governmental guidance on benefit-sharing and FPIC has been a source of uncertainty. While the provision of community benefits remains voluntary in Mexico, in practice developers use the provision of benefits for securing acceptance and protect operations. However, since there is no legal framework that controls and records these benefits, developers feel that they are often used as bribes, leading to an upward spiral of demands, whereby communities request benefit increases, which at times culminates in what one interviewee described as 'extortion' from certain groups within a community. Weak institutions and regulatory frameworks have left developers disincentivised from engaging in further deliberative processes and investments.[86]

The timeframe for FPIC has been especially problematic. The Ministry of Energy has suggested that the process for FPIC may take as little as three days to complete. Yet, in reality, agreeing the first FPIC protocol for a wind farm took six months, and undertaking the related consultation process took eight months[87]. This example clearly shows the need to manage investors' expectations, and to properly factor consultations into projects plans.

Developers largely view more formalised and institutionalised benefit-sharing and FPIC processes as a means to provide legal security for their investments. Communities would not be able to escalate their demands, and give developers greater confidence in what to expect and to properly budget for the related financial resources in early planning stages.

[85] Interview transcripts on file with the author.
[86] Interview transcripts on file with the author.
[87] Interview transcripts on file with the author.

3.6 A Need for Greater Institutionalisation?

Developers' suggestions concerning the institutionalisation of FPIC and benefit-sharing align with those made in the literature.[88] Reform proposals of FPIC procedures have been put forward by federal deputies to specifically cover elements of international and regional human rights treaties, as well as of the Constitution.[89] These reforms are presently stalled, due to the start of a new legislature. In the meantime, at the 'X Regional Forum on the Transformation of Socio-environmental Conflicts in Latin America', held in Mexico City in November 2018, other stakeholders in the region expressed less confidence in greater institutionalisation.

NGOs and representatives of indigenous communities raised the concern that FPIC could become a tick boxing exercise that undermines the self-determination of indigenous people.[90] The forum concluded that the FPIC procedures implemented so far have not respected human rights. Quite to the contrary, they have become means for the rubberstamping of investment projects already agreed between developers and governments. Moreover, these processes have been characterised by community division, criminalisation of opponents of developments, and the omission of measures that may allow women to participate. The participants also lamented that civil servants in charge of FPIC processes constantly changed. The forum concluded that so these procedures have been marked by political pressure and have resorted to manipulation to favour third party interests over indigenous lands. Enshrining FPIC in the law has, for the time being, not delivered favourable for the exercise of indigenous peoples' rights.[91]

Indigenous peoples and human rights organisations have expressed a preference for the development of other mechanisms, such as community protocols. As mentioned above, community protocols may be used as means of empowerment to increase community capacity to negotiate benefits with developers and public authorities[92] given that they are recognised in national law. These suggestions are motivated on the ground that, even if FPIC institutionalisation is done properly, this would not guarantee that national governments would duly follow the related procedures. The supporters for alternatives further argue that, even if the ultimate rationale for more institutionalisation is to give legal security to communities, historically lack of tenure security has disproportionately affected indigenous lands –an issue that is still ongoing and has to be resolved. In this connection, wind farm developments have not so much caused, but simply reignited historical land disputes in the region.

In light of all the above, the forum participants called for the self-determination of indigenous peoples and their right to define their development priorities to be placed at the centre of the

[88] See above note 40 and corresponding text.
[89] Indigenous Consultation Federal Law Proposals presented by deputies Armando Contreras Castillo and Modesta Perez Alonso, available at <http://sil.gobernacion.gob.mx/Archivos/Documentos/2018/09/asun_3734588_20180913_1536855022.pdf> and http://sil.gobernacion.gob.mx/Archivos/Documentos/2018/03/asun_3679667_20180315_1521157744.pdf> accessed 15 February 2019.
[90] Oxfam, 'Pronunciamiento: Pueblos Indígenas Y Organizaciones De La Sociedad Civil De México. América Latina Y El Caribe Se Pronuncian Sobre La Implementación Del Derecho De Consulta Y Consentimiento Previo, Libre E Informado' (2017). Unpublished report, on file with the author.
[91] ibid.
[92] See n 30 above and corresponding text.

debate concerning greater institutionalisation of both FPIC and benefit-sharing in Mexico.[93] They emphasised the need for genuine community engagement prior to the planning and development of wind farms, moving from a 'decide-announce-defend' approach, towards a 'consult-consider-modify' approach.[94]

4. Conclusions

This paper has taken stock of the practice of FPIC and benefit-sharing in the specific context of wind farm developments in the Isthmus of Tehuantepec, analysing original, unpublished empirical data in the light of the literature on benefit-sharing and energy justice. It shows how benefit-sharing and FPIC have become a standard feature of wind energy developments in indigenous peoples' lands in the region. While the establishment of these processes is in and of itself a welcome development, how people participate and engage does matter. The empirical evidence in this paper clearly shows that much needs to be done in order to deliver genuine open, democratic decision-making over wind farm developments in the Isthmus, as well as benefits to its people.

The data analysed in this paper has shown that lack of institutionalised guidance on the distribution of benefits has led to corporate policies that are developed and implemented on an *ad hoc* basis. Wind energy developments in indigenous lands have been marked by power asymmetries, with undesirable or even harmful results for those living nearby. These outcomes were exacerbated by local governments' inability and/or unwillingness to act as good faith brokers between developers and communities.

It seems therefore fair to conclude that the complex distributive, recognition and procedural justice considerations affecting the development of wind farms the Isthmus of Tehuantepec have not been adequately resolved. Defining the scope of communities to be involved in FPIC and benefit-sharing processes has been challenging, and the solution of the related recognition justice questions has remained elusive. Our findings thus corroborate suggestions in the literature that the notions of community, as well as indigenous peoples, do not necessarily correspond to homogenous groups that are supported by collective intents.

Institutionalised procedures for FPIC and benefit-sharing may give communities and developers greater certainty about their rights and responsibilities, and what to expect from a wind farm. Nevertheless, institutionalisation is not an end in itself, and rather needs to be coupled with greater transparency and accountability to increase trust between the parties involved. Procedural justice consideration, in other words, need to be better addressed, including by designing consultation processes endowed with adequate time and resources, which make engagement desirable and accessible.

Finally, distributive justice has also remained elusive. Agreed benefit-sharing arrangements have only delivered favourable results for certain groups, at the expense of others. The projects have not delivered the expected outcomes, and both developers and communities were left feeling exploited and dissatisfied. This in turn has raised questions on the role of governmental authorities in overseeing that equitable outcomes are delivered, and whether

[93] Oxfam (n 93).
[94] Susan Boucher and Sarah Whatmore, 'Green Gains? Planning by Agreement and Nature Conservation' (1993) 36 Journal of Environmental Planning and Management 33.

indeed these can be achieved through bilateral negotiations between large corporations and indigenous communities, given the inequalities of power and resources between them.[95]

In sum, the data analysed in this paper confirms that, while benefit-sharing arrangements are commonly expected to help creating the conditions for the successful establishment of wind farms, they are not enough in themselves. Instead, an adequate power balance in developer-government-community relations needs to be achieved. This is the holy grail of all development activities, and renewable energy projects are not different from any other.[96] Instead renewable energy projects rather tell a familiar tale, whereby public involvement and even benefit-sharing arrangements may simply be used a token to obtain acceptance of new developments, which however only sow the seeds of conflict in the long run. Arguably, only by going beyond narrow, tokenistic conversations would it be possible to deliver genuine solutions to the unequal distribution of burdens and benefits in the energy transition, and the related complex social justice questions.[97] This is easier said than done, and the quest for the tools for making this happen in practice continues, well beyond the Isthmus of Tehuantepec.

[95] As noted also in Savaresi (n 36), 73.

[96] As noted also in Richard Cowell and Patrick Devine-Wright, 'A "Delivery-Democracy Dilemma"? Mapping and Explaining Policy Change for Public Engagement with Energy Infrastructure' (2018) 20 Journal of Environmental Policy & Planning 499.

[97] As suggested also in Benjamin K. Sovacool and others, 'Energy Decisions Reframed as Justice and Ethical Concerns' (2016) 1 Nature Energy 16024, 6.